

VitroView™ Alcian Blue and PAS Stain Kit

Cat. No. VB-3005

Introduction

Alcian Blue and PAS Stain is a method combining the properties of both Periodic Acid (PAS) and Alcian blue to demonstrate the full complement of tissue proteoglycans. The rationale of the technique is that by first staining all the acidic mucins with Alcian blue, those remaining acidic mucins which are also PAS positive will be chemically blocked and will not react further during. In contrast, neutral mucins that are solely PAS positive will be revealed. When mixtures occur, the resultant colour will depend upon the dominant moiety.

The combined result from this *port-manteau* method demonstrates both acidic- neutral- and mixtures of acidic and neutral mucins.

Kit Components

1. Alcian Blue Solution - 250 ml
2. Schiff Reagent - 250 ml
3. Periodic Acid Solution - 250 ml

Storage

Room temperature.

Protocol

1. Deparaffinize in Xylene I for 6 minutes and II for 6 minutes.
2. Rehydrate
 - a. Ethanol 100% (2 minutes)
 - b. Ethanol 100% (2 minutes)
 - c. Ethanol 95% (2 minutes)
 - d. Ethanol 95% (2 minutes)
 - e. Ethanol 70% (2 minutes)
3. Rinse in distilled water (5 minutes).
4. Stain with Alcian blue for 15 mins
5. Wash well in running tap water for 2 mins
6. Rinse in distilled water
7. Treat with periodic acid for 5 mins
8. Rinse in distilled water
9. Stain with Schiff's reagent for 10 mins
10. Rinse in running tap water for 5 mins
11. Counterstain in Mayer's hematoxylin for 1 minute.
12. Wash in tap water for 5 minutes.
13. Dehydrate and Clear with 3 changes of xylene (5 minute per change)
14. Mount coverslip onto glass slide with Permount or some other suitable organic mounting medium.

Results

- acidic mucins blue
- neutral mucins magenta
- mixtures of above blue/purple
- nuclei deep blue

Technical Points

1. Diastase pre-treatment may be used to eliminate the presence of glycogen, prior to staining with Alcian blue.
2. Fixation is not critical; however fixation by aldehyde addition, eg. glutaraldehyde, will produce non specific general PAS positivity.

Precautions

- Handle with care. Avoid contact with eyes, skin and clothing. Do not ingest. Wear gloves.